JYOTI NIVAS COLLEGE
PG CENTER

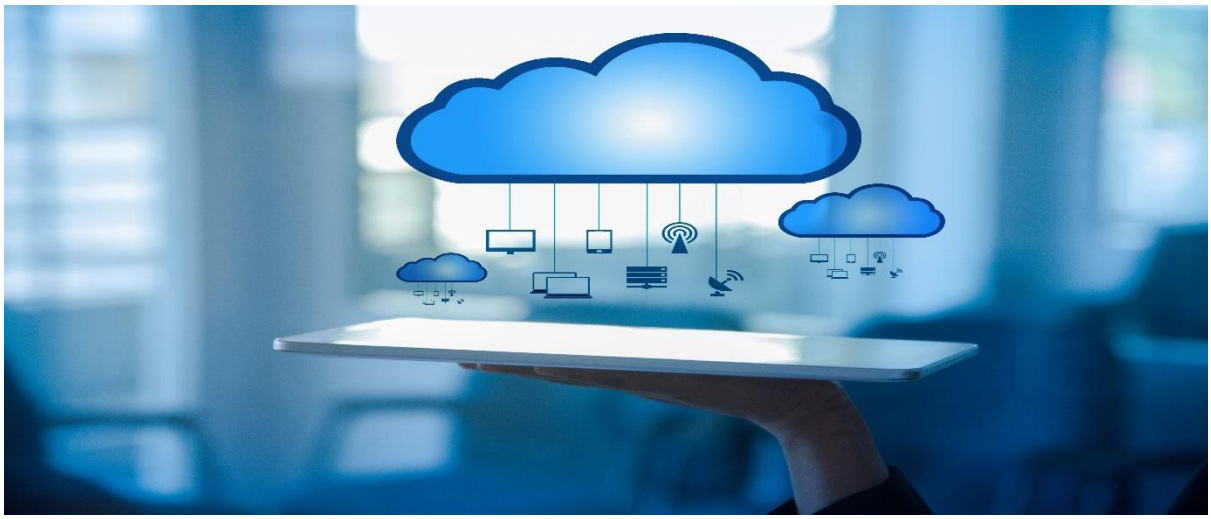
DEPARTMENT OF MCA

III YEAR

TECH-ON-TAP

E-JOURNAL ON

CLOUD COMPUTING



Issue 2, September 2021

ALIBABA CLOUD

ABHILASHA D

19MCA01

Alibaba Cloud also known as Aliyun, is a cloud computing company, Alibaba Cloud provides cloud computing services to online businesses and Alibaba's own e-commerce ecosystem. It is the largest cloud computing company in China, and in Asia Pacific. Alibaba Cloud operates data centers in 24 regions and 74 availability zones around the globe. Alibaba Cloud provides cloud computing IaaS, PaaS, DBaaS and SaaS. It also offers cloud services that are available on a pay-as-you-go basis, and include Elastic Compute, Data Storage, Relational Databases, Big-Data Processing, Anti-DDoS protection and Content Delivery Networks.

Elastic Compute: elasticity is defined as the degree to which a system is able to adapt to workload changes by provisioning and de-provisioning resources in an autonomic manner, such that at each point in time the available resources match the current demand as closely as possible.

Data Storage: Data storage in a digital, machine-readable medium is sometimes called digital data. Computer data storage is one of the core functions of a general-purpose computer. Electronic documents can be stored in much less space than paper documents.

Relational Databases: A relational database is a digital database based on the relational model of data, A software system used to maintain relational databases is a relational database management system.

Big-Data Processing: **Big data** is a field that treats ways to analyze, systematically extract information from, or otherwise deal with data sets that are too large or complex to be dealt with by traditional data-processing application software.

DDoS protection: DDoS mitigation is a set of network management techniques and/or tools for resisting or mitigating the impact of distributed denial-of-service attacks on networks attached to the Internet by protecting the target and relay networks.

Storage pricing: MaxCompute data, such as tables and resources, is charged based on the storage space the data occupies. The billing cycle is per day. If it is less than 1GB it is free or else USD 0.0006 per GB per day.Despite being a late entrant in the cloud market, Alibaba Cloud has positioned itself among the TOP 3 because of the quality, security, and affordability of its services

REFERENCES:

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https://www.alibabacloud.com/pricing

ADOBE CREATIVE CLOUD

Amina.S.N
19MCA02

Adobe Cloud:

Adobe Creative Cloud is a set of applications and services from Adobe Inc. that gives subscribers access to a collection of software used for graphic design, video editing, web development, photography, along with a set of mobile applications and also some optional cloud services.

- Adobe Creative Cloud gives you the world's best creative apps and services so you can make anything you can imagine, wherever you're inspired.

Creative Cloud:

Creative Cloud is a collection of 20+ desktop and mobile apps and services for photography, design, video, web, UX, and more.

Document Cloud apps and services

- Desktop products:
- Adobe Acrobat Pro DC
- Adobe Acrobat Reader DC
- Mobile apps:
  - Adobe Acrobat Reader for Android, iOS, or Windows Phone
  - Adobe Scan for Android or iOS
  - Adobe Fill & Sign for Android or iOS
  - Adobe Sign for Android or iOS
- Web services:
  - Adobe Sign
  - Adobe Acrobat PDF Pack
  - Adobe Acrobat Export PDF
  - Adobe Document Cloud (free storage)

Payment: Get a collection of creative desktop and mobile apps and services for designing images, graphics, layouts, user experiences, video and audio for print, the web and mobile devices. It includes:

- Photoshop
- Illustrator
- InDesign
- Adobe XD
- Lightroom
- Acrobat Pro
- Animate
- Annual plan, paid monthly — **₹4,230.30/mo.** Inclusive of GST
- Annual plan, prepaid — **₹47,889.12/yr**. Inclusive of GST
- Monthly plan — **₹6,346.04/mo.** Inclusive of GST

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LINODE - CLOUD CONTENT PROVIDER

Chaithra R

19MCA04

Linode is an American privately-owned cloud hosting provider that focuses on providing Linux powered virtual machines to support a wide range of applications. Linode provides Infrastructure as Service and is a public cloud. Linode (combination of dev oriented keywords, Linux and node) was founded by Christopher Aker, launching in mid 2003..Core features of linode is cloning and scaling, linode API, DNS manager, command line access, virtual console for server access, custom stack deployment capability, 24/7 customer service. Linode provides cloud services like computing, linode kubernetes engine (LKE), object and block storage and many more.

Linode Compute enables easy access and usability to developers for web-scale cloud computing, deploy applications rapidly without the need for investing in hardware upfront and includes LKE, Dedicated CPU, GPU, High Memory, Shared Linodes, Nanode. LKE is a fully-managed container orchestration engine for deploying and managing containerized applications and workloads and it combines Linode's ease of use and simple pricing with infrastructure efficiency, easily deploy and manage and deploy popular apps using helm charts, operators, and controllers. Linode Object Storage is easy and more affordable to manage unstructured data such as content assets, sophisticated and data-intensive storage challenges around artificial intelligence and machine learning also scale your data storage, Support Static Websites, no vitual machine and S3 compatible to store critical data. Linode's Block Storage service enables to increase your linode's storage capacity by attaching additional high-speed Volumes which are managed independently of Linodes, so your data persists even if you delete your Linode. its service manage your data independently high-speed storage, resilient and fault tolerant.

Linode is used by United States Company like OtterBox, Human Rights Watch, Solarwinds corp, Universit of California. The Linode Pricing Structure is trouble-free with a monthly cap, it asks for hourly charges begins with $5/month for 1GB under Compute Shared Plan. For Dedicate CPU Plans, it charges $30/month for 4 GB RAM. The High Memory Plan could be used with a $60/month price tag for 24GB RAM. Furthermore, it charges of backup and Object Storage starts from $2 and $5 per month, respectively. On the other hand, if you want to estimate your project charges, then you can also use 'Cloud Estimator' and 'Cloud Pricing Calculator' of Linode.

References:

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RACKSPACE CLOUD

Lavanya Chamarthi

19MCA05

The Rackspace Cloud is a set of cloud computing products and services billed on a utility computing basis from the US-based company Rackspace. Rackspace offers Hybrid cloud solutions for a flexible, best-fit option to meet even the most particular requirements.This is the world's largest managed cloud provider.Rackspace was acquired in 2016 by private equitiy giant Apollo Global Management for $4.3 billion.It has partnership with someplatforms like Amazon web services ,google cloud,VM ware etc.127 companies reportedly use Rackspace Cloud Servers in their IT businesses companies like Accenture. Zendesk,Teamsnap, STS, Mailgun etc…

SERVICES

Cloud Storage: Rackspace Cloud Files is an affordable, redundant, and dynamic storage service. The core storage system is designed to provide a secure, network-accessible way to store an unlimited number of files. Each file can be as large as 5 gigabytes. As a Cloud Files user you get access to this network automatically.Rackspace cloud Strage is pay-as-you-go.

Cloud backup: Cloud backup is a service in which the data and applications on a business's servers are backed up and stored on a remote server. Businesses opt to back up to the cloud to keep files and data readily available in the event of a system failure, outage or natural disaster. Cloud backup for business operates by copying and storing your server's files to a server in a different physical location.

Virtual private server: A virtual private server (VPS) is a private cloud server located inside a public cloud that enables you to experience the benefits of a virtualized network while using public cloud resources. A VPS connects to remote networks via a virtual private network (VPN) connection. A VPS is ideal for companies seeking high levels of security, privacy and control, such as healthcare and financial organizations dealing with regulatory compliance.

Load Balancer: The Rackspace Cloud Load Balancers service enables customers to quickly load-balance multiple cloud servers or external servers for optimal resource utilization. Cloud Load Balancers distribute workloads across two or more servers, network links, and other resources to maximize throughput, minimize response time, and avoid overload.

References:

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- https://searchstorage.techtarget.com/definition/Rackspace-Cloud

GOOGLE CLOUD

Deepika N

19MCA06

Google cloud lets developers build and host applications and websites, data store and analyse data, all on Google's scalable and reliable computing infrastructure. It is a provider of computing resources for developing, deploying and operating applications on the web. It is a public cloud computing services where all the testing and sending are updated regularly by google. Its services can be easily accessed by developers, cloud administrators or other IT professionals in the public network through any other dedicated network connection.

Google cloud platform offers services like compute service, management tools, cloud AI, IOT, security and identity management, big data, storage services, networking and many more. Google Compute Engine offers virtual machines running in Google's data centres connected to its worldwide fibre network. The tooling and workflow offered enables scaling from single instances to global, load-balanced cloud computing. These VMs boot quickly, come with persistent disk storage, and deliver consistent performance. The machines are available in many configurations including predefined sizes and can also be created with Custom Machine Types optimized for your specific needs. Secure and customizable compute service that lets you create and run virtual machines on Google's infrastructure. You can create a Virtual Machine (VM) that fits your needs. Compute Engine provides tools to help you bring your existing applications to the cloud. You can have your applications running on Compute Engine within minutes while your data migrates transparently in the background. Compute Engine can validate, run, and migrate applications into Google Cloud without rewriting them, modifying the image, or changing management processes. Pricing for Compute Engine is based on per-second usage of the machine types, persistent disks, and other resources that you select for your virtual machines. If you have a specific project in mind, use the pricing calculator to estimate cost. You can also reach out to our sales team to request a quote. New customers get $300 in free credits to spend on Google Cloud during the first 90 days. All customers get a general purpose machine (e2-micro instance) per month for free, not charged against your credits.

Cloud run develop and deploy highly scalable containerized application on a fully managed serverless platform. Write code your way using your favourite languages (Go, Python, Java, Ruby, Node.js, and more). Abstract away all infrastructure management for a simple developer experience. Cloud Run charges you only for the resources you use, rounded up to the nearest 100 millisecond. each of these resources have a free tier. Your total Cloud Run bill will be the sum of the resources in the pricing table. The following pricing tables use the GiB-second unit. A GiB-second means for example running a 1 gibibyte instance for 1 second, or running a 256 mebibyte instance for 4 seconds. The same principle applies for the vCPU-second unit. CUD refers to committed use discounts.

References:

- https://cloud.google.com/
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IBM CLOUD

S.JENIFER

19MCA07

Introduction: IBM Cloud can be used to build a scalable infrastructure at a lower cost, deploy new applications instantly and scale up workload based on demand — all within a security-rich platform.

- App Configuration.
- IBM Cloud Backup.
- Secure Gateway Service.

App Configuration: IBM Cloud App Configuration is a centralized feature management and configuration service for use with web and mobile applications, microservices, and distributed environments.

Instrument your applications with App Configuration SDKs, and use the App Configuration dashboard or administrator API to define feature flags, organize them into collections, and target them to segments (groups) of users or resources that you define.

IBM Cloud Backup : It is full-featured, automated, agent-based backup and recovery system managed through the Cloud Backup WebCC browser utility.

Multi-vault technologies, you can securely back up your data between IBM Cloud servers in one or more IBM Cloud data centers, worldwide.

Features:

- Always-on applications.
- Global support.
- Web-based GUI.

Secure Gateway : The Secure Gateway Service provides a quick, easy, and secure solution to connect anything to anything. The solution provides a persistent connection between on-premises or third party cloud environments and the IBM Cloud.

Features:

- Fast and simple.
- Encryption and authentication.
- Resource monitoring.
- Access control list.
- Load Balancing and High Availability.

Reference:

- https://www.ibm.com/in-en/cloud/products.

VMWARE SERVICE PROVIDER

Kavana C
19MCA08

VMware allows businesses to run multiple application and operating system workloads on the one server – thus enabling better resource management. By creating a virtual machine that behaves exactly like an actual computer – VMware also allows everything running on that virtual machine to run in its own window. VMware, Inc. is an American cloud computing and virtualization technology company headquartered in California.VMware was the first commercially successful company to virtualize the x86 architecture.

In 1998, VMware was founded by Diane Greene, Mendel Rosenblum, Scott Devine, Ellen Wang and Edouard Bugnion. Greene and Rosenblum were both graduate students at the University of California, Berkeley. Edouard Bugnion remained the chief architect and CTO of VMware until 2005 and went on to found Nuova Systems. For the first year, VMware operated in stealth mode, with roughly 20 employees by the end of 1998. The company was launched officially early in the second year, in February 1999, at the DEMO Conference organized by Chris Shipley.The first product, VMware Workstation, was delivered in May 1999, and the company entered the server market in 2001 with VMware GSX Server (hosted) and VMware ESX Server (hostless).

Products are VMware vSphere, VMware ESXi, VMware Fusion, VMware Player, VMware ThinApp, VMware View, VMware Infrastructure Services, Virtualization software, SaaS, Cloud.

VMware's most notable products are its hypervisors. VMware became well known for its first type 2 hypervisor known as GSX. This product has since evolved into two hypervisor product lines: VMware's type 1 hypervisors running directly on hardware and their hosted type 2 hypervisors.

VMware software provides a completely virtualized set of hardware to the guest operating system. VMware software virtualizes the hardware for a video adapter, a network adapter, and hard disk adapters. The host provides pass-through drivers for guest USB, serial, and parallel devices. In this way, VMware virtual machines become highly portable between computers, because every host looks nearly identical to the guest.

Reference:

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VM WARE

Nishanthi.K

19MCA09

Introduction

Virtualization software creates an abstraction layer over computer hardware that allows the hardware elements of a single computerprocessors, memory, storage, and more to be divided into multiple virtual computers, commonly called virtual machines (VMs).Each virtual machine runs its own operating system (OS) and behaves like an independent computer, even though it is running on a portion of the actual underlying computer hardware. As you can imagine, virtualization enables more efficient utilization of computer hardware and enables a greater return on an organization's hardware investment. It also enables cloud providers public or private to serve more users with their existing physical computer hardware.

VM Ware Virtualization

A virtual machine (VM) is the base unit of VMware virtualization. A VM is a software-based representation of a physical computer. An operating system (OS) running in a VM is called a guest OS.Each VM includes a configuration file that stores the VM's settings, a virtual disk file that is a software version of a hard drive, and a log file that keeps track of the VM's activities, including system failures, hardware changes, migrations of virtual machines from one host to another, and the VM's status.

VMware enables you to use more of a physical computer's resources. Administrators don't like running multiple mission-critical applications on a single server OS because if one application crashes, it can make the OS unstable and crash other applications. One way to eliminate this risk is to run each application in its own OS on its own dedicated physical server, but this is inefficient because each OS might only use 30% of a server's CPU power. With VMware, you can run each application in its own OS on the same physical server and make better use of the physical server's available CPU power.

VMware lets you run more applications using fewer physical servers. Fewer physical servers require less space in your data center and less energy to power and cool.

References:

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SAP CLOUD COMPUTING

Puja Kumari

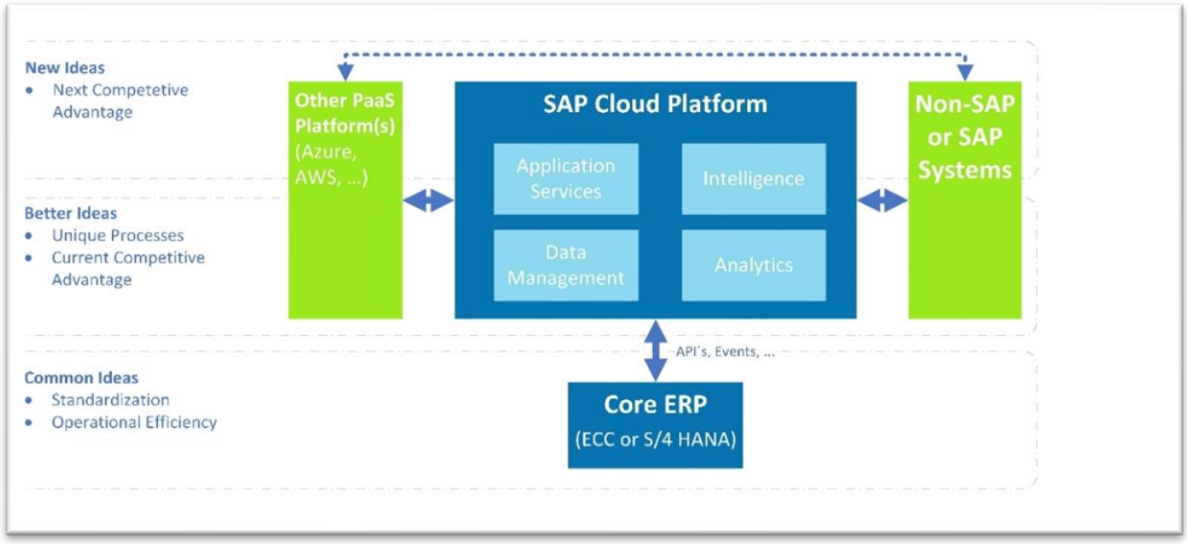
19MCA10

Introduction

SAP Cloud Platform is a platform-as-a-service (PaaS) product that provides a development and runtime environment for cloud applications. Based in SAP HANA in-memory database technology, and using open source and open standards, SCP allows independent software vendors (ISVs), startups and developers to create and test HANA-based cloud applications. The SAP Cloud Platform integrates data and business processes.

Infrastructure

Deploying cloud for SAP requires an assertive evaluation of the road ahead. The journey requires the ability to work through numerous offerings and comparisons to design a solution that fits your business and your financial model today and that scales to your future needs. It also requires a deep understanding of your existing platform and the potential integration challenges you may face as you weave together your cloud-based infrastructure architecture for SAP.



Conclusion

Some applications are available from the SAP HANA App Center, to extend and integrate applications, customize existing applications, and extend their mobile footprint with mobile-first apps.

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AMAZON WEB SERVICES (AWS)

Prajwala S Reddy

19MCA11

Introduction:

Amazon Web Services (AWS) is the world's most broadly adopted cloud platform, offering over 200 fully featured services from data centers globally. Millions of customers including the fastest-growing startups, largest enterprises, and leading government agencies are using AWS to lower the costs, become more agile, and innovate faster.

Amazon CloudFront:

- Amazon CloudFront is a fast content delivery network service that securely delivers data, videos, applications, and APIs to customers globally with low latency, high transfer speeds, all within a developer-friendly environment.
- CloudFront works with any AWS origin, such as Amazon S3, Amazon EC2, Elastic Load Balancing, or with any custom HTTP origin.

Amazon Virtual Private Cloud (VPC):

- Amazon Virtual Private Cloud (Amazon VPC) is a service that lets you launch AWS resources in a logically isolated virtual network that you define. You have complete control over your virtual networking environment, including selection of your own IP address range, creation of subnets, and network gateways.

Amazon Simple Notification Services (SNS):

- Amazon Simple Notification Service (Amazon SNS) is a fully managed messaging service for both application-to-application(A2A) and application-to-person(A2P) communication.
- SNS is a cloud service for coordinating the delivery of push messages from software applications to subscribing endpoints and clients.

Reference:

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- https://en.m.wikipedia.org/wiki/AWS

MICROSOFT AZURE

PriyankaRani
19MCA12

Microsoft Azure is one of the fastest-growing clouds among them all. Azure was launched years after the release of AWS and Google Cloud but is still knocking on the door to become the top cloud services provider. Microsoft Azure recently won a $10 billion US government contract.

While Microsoft Azure revenue is difficult to predict, Microsoft broke down its revenue of the last quarter into three categories, Productivity and Business Processes, Intelligent Cloud, and Personal Computing. The respective revenue was $11.0 billion, $11.4 billion, and $11.3 billion.

Microsoft's Azure revenue is expected to grow between $33 billion to $35 billion. This makes Azure one of the most profitable cloud services in the world.

Azure Services

Azure offers hundreds of services within various categories including AI + Machine Learning, Analytics, Blockchain, Compute, Containers, Databases, Developer Tools, DevOps, Identity, Integration, Internet of Things, Management, Media, Microsoft Azure Stack, Migration, Mixed Reality, Mobile, Networking, Security, Storage, Web, and Windows Virtual Desktop. Azure is an IaaS provider from Microsoft. It incorporates an extensive range of products and services.

For example, the Azure mobile app service is a leading application backend for the development of iOS, Android, and Windows platform applications. It is a service for mobile features implementation and relied upon by Node.js and C## applications.

Azure features data resiliency for facilitating data protection across different data centers with multiple high-security data centers. The use of locally redundant storage makes resources available round-the-clock for users.

Azure also comes with BCDR (Business Continuity/Disaster Recovery) integration for ensuring reliable backup and recovery.

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ORACLE CLOUD SERVICES

Priyanka S

19MCA13

Oracle is one of the largest vendors in the enterprise IT market and the shorthand name of its flagship product, a relational database management system (RDBMS) that's formally called Oracle Database. The database software sits at the centre of many corporate IT environments, supporting a mix of transaction processing, business intelligence and analytics applications.

In 1979, Oracle Corp. was the first company to commercialize an RDBMS platform, and it's still the leading database vendor by a wide margin in terms of revenue. Driven primarily by sales of Oracle Database, it had a 40.4% share of worldwide database software revenues in 2016, according to Gartner; that was down two percentage points from 2015, but still twice the share of second-place Microsoft.

In the ensuing decades after launching the RDBMS technology, Oracle greatly expanded its product portfolio through internal development and numerous acquisitions. It now also sells several other databases, multiple line of business applications, data analytics software, middleware, computer systems, data storage equipment, development tools and other technologies. In addition, Oracle is working to establish itself as a leading cloud computing vendor, after initially being slow to embrace the cloud.

Some of the cloud services provided by Oracle cloud services are Analytics Cloud Services, Big Data Cloud services, NoSQL Cloud services etc.

These cloud services are provided to the users in metered and Non-metered ways. In metered the user is charged according to the usage, and in non-metered the user pays for a certain amount of time for a set of services.

There are many top companies and developers who use Oracle cloud services like Netflix, LinkedIn, eBay, ViaVarejo, MIT, DFe Cloud, Bluesoft Stack, Mario’s Stack etc.

Compared to other cloud services like AWS, Azure, Oracle provides better performance, storage, durability, availability, monitoring and access at the low price. So Oracle is affordable and good for the users.

Reference:

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AMAZON WEB SERVICES (AWS)

Roshni Rathore

19MCA14

Cloud computing is becoming an increasingly popular enterprise model in which computing resources are made available on-demand to the user as needed. The unique value proposition of cloud computing creates new opportunities to align IT and business goals. Cloud computing use the internet technologies for delivery of IT-Enabled capabilities 'as a service' to any needed users i.e. through cloud computing we can access anything that we want from anywhere to any computer without worrying about anything like about their storage, cost, management and so on. In here we will study about 'Amazon Web Services (AWS)' which is one of the best cloud service provider on the world. AWS is the most trusted provider of cloud computing which not only provides the excellent cloud security but also provides excellent cloud services. In this paper I provide a comprehensive study on the motivation factors of adopting I. Introduction Cloud computing using AWS, review the several cloud deployment and service models of AWS. It also explore certain benefits of cloud computing using AWS over traditional IT service environment-including scalability, flexibility, reduced capital and higher resource utilization are considered as adoption reasons for cloud computing AWS environment. AWS is low cost, pay per use, highly secure, easy to use cloud service and many more.

In 2006, Amazon Web Services (AWS) began offering IT infrastructure services to businesses as web services—now commonly known as cloud computing. One of the key benefits of cloud computing is the opportunity to replace upfront capital infrastructure expenses with low variable costs that scale with your business. With the cloud, businesses no longer need to plan for and procure servers and other IT infrastructure weeks or months in advance. Instead, they can instantly spin up hundreds or thousands of servers in minutes and deliver results faster. Today, AWS provides a highly reliable, scalable, low-cost infrastructure platform in the cloud that powers hundreds of thousands of businesses in 190 countries around the world.

Cloud computing is the on-demand delivery of compute power, database, storage, applications, and other IT resources through a cloud services platform via the Internet with pay-as-you-go pricing. Whether you are running applications that share photos to millions of mobile users or you're supporting the critical operations of your business, a cloud services platform provides rapid access to flexible and low-cost IT resources. With cloud computing, you don't need to make large upfront investments in hardware and spend a lot of time on the heavy lifting of managing that hardware. Instead, you can provision exactly the right type and size of computing resources you need to power your newest bright idea or operate your IT department. You can access as many resources as you need, almost instantly, and only pay for what you use. Cloud computing provides a simple way to access servers, storage, databases and a broad set of application services over the Internet. A cloud services platform such as Amazon Web Services owns and maintains the network-connected hardware required for these application services, while you provision and use what you need via a web application.

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VERIZON CLOUD

Santhiya.V

19MCA16

INTRODUCTION: Verizon Cloud is a service that wirelessly stores your files in the cloud. Files are encrypted during transfer and stored securely.Restore files from your Verizon Cloud account to your computer.Change your backup folders and settings, back up files manually, view backup progress and more.

- ✓ State &Local,
- ✓ Public safety,
- ✓ Education

STATE &LOCAL

Enhance services for local communities and answer the pressing demands of state and local governance

PUBLIC SAFETY

Verizon is America's most reliable network.An interoperable network will help to ensure that qualified first responders have the best quality of service and can pass it across carriers regardless of their choice of network, enabling seamless collaboration.

EDUCATION

Provide richer learning and teaching opportunities, promote safety, and boost productivity with technology solutions for higher education. We can help you meet the holistic needs of students on or off campus and drive career readiness. Many of our services are eligible for E-Rate funding, so you can make cost-effective choices that don't sacrifice quality. Despite the uncertainty around closed schools, with the right collaboration and communication tools, administrators can help teachers remain engaged and connected

Reference:

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GOOGLE CLOUD PLATFORM

Sarumathi

19MCA17

Google Cloud Platform is built on the same world-class infrastructure that Google designed, assembled, and uses for corporate products like Google search, which delivers billions of search results in milliseconds. Google is also one of the few companies to own a private fiber-optic cable under the Pacific Ocean. Google Cloud Platform empowers software application developers to build, test, deploy, and monitor applications using Google's highly scalable and reliable infrastructure. In addition, it enables system administrators to focus on the software stack while allowing them to outsource the challenging work of hardware assembly, maintenance, and technology refreshes to experts at Google.

(i) Big Data: These services enable users to process and query very large datasets to generate results and insights from complex analysis, e.g. Big Query.

Big Query Data Transfer Service pricing examples

Example 1: You have 1 transfer with 3 runs that complete on the same day.

The first run records the following unique IDs: A, B, and C.The second run records: A.The third run records: C and D.Because all runs finish on the same day, you are charged based on 4 unique IDs: A, B, C, D. Because ID A and ID C were recorded in two different runs that completed on the same day, IDs A and C are counted only once. If the 3 transfer runs complete every day for a month, your monthly charge is based on 4 unique IDs. If the transfer runs complete fewer times than the number of days in the month in which they run, the charges are prorated.

(ii)Networking:

- Egress represents data sent from Cloud Storage in HTTP responses. Ingress represents data sent to Cloud Storage in HTTP requests. Network usage charges apply for egress and are divided into the following cases:Network egress within Google Cloud, when egress is to other Cloud Storage buckets or to Google Cloud services. Specialty network services, when egress uses certain Google Cloud network products. General network usage, when egress is out of Google Cloud or between continents. monthly usage (0-1 TB =$0.12)

(iii) Storage:

This includes services for data to be stored and accessed from different locations, serving different user needs such as storing SQL databases (Cloud SQL). To support those core services, Google Cloud offers additional services such as Networking, API Platforms and Ecosystems, etc.. Types of Storage :Standard Storage, Nearline Storage, Coldline Storage, Archive Storage

- **(iv)Google Cloud Internet of Things (IoT)**:

  Core is a fully managed service for securely connecting and managing IoT devices, from a few to millions. Ingest data from connected devices and build rich applications that integrate with the other big data services of Google Cloud Platform. With Google Cloud's pay-as-you-go pricing structure, you only pay for the services you use. No up-front fees. No termination charges. Pricing varies by product and usage .

  Reference :

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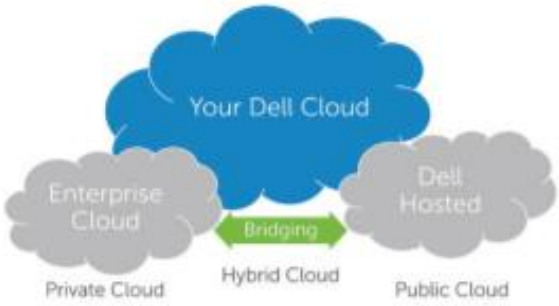
DELL CLOUD

Sudipta Bala

19MCA18

Dell has experience building private clouds for its customers with a large install base utilizing VMware as the foundation. Dell is uniquely positioned to deliver an end-to-end cloud solution based on VMware virtualization. Dell's public cloud offering provides an evolutionary IT model unifying private and public resources through hybrid cloud, with the management, functionality and security needed for a large, enterprise environment.



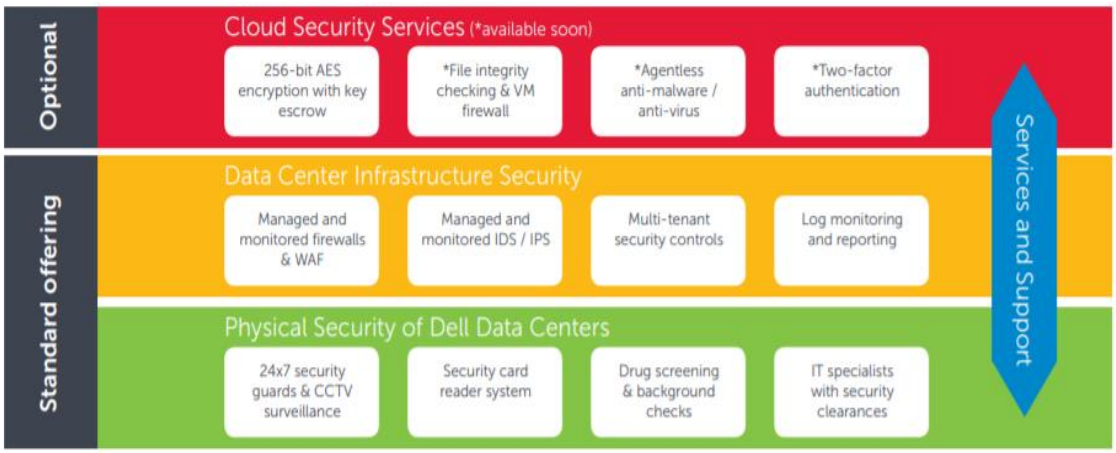
Benefits

• **Agility and flexibility:** Pooling of servers, networks and storage increases agility, reducing the time and capital needed to stand-up and maintain traditional physical environments. Move to the cloud at your own pace. You provision and consume computing capacity according to your own requirements, as you need it, when you need it.

• **Elasticity and responsiveness:** Elastic capacity allows you to quickly respond to new business opportunities, seasonal/cyclical trends and other fluctuations in need of compute resources. The service makes it easier to port your applications to the Dell public cloud in order to streamline your deployment process and leverage ondemand computing.

• **Compatible and familiar:** VMware's vCloud Connector allows you to take advantage of hybrid capabilities using a familiar graphical user interface to move workloads between private and public as needed. Use of the same VMware technology across private and public cloud creates a compatible "Virtual Data Center" enabling application portability across clouds.

• **Available and reliable:** The Dell Cloud with VMware vCloud Datacenter Service is built with the necessary redundancy and ruggedness for optimal availability. The comprehensive management layer monitors the dynamic pools of hardware, software, storage and network resources, thereby providing automated fail-over and maximizing service reliability.



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MICROSOFT AZURE

Swati Kumari

19MCA19

Microsoft Azure is a set of cloud services to help your Organization meet your business requirement. Azure is used to build, deploy, and manage applications and services through a global network of Microsoft-managed data centers. Data centers are geographically dispersed to provide availability and performance The Azure cloud platform is more than 200 products and cloud services designed to help you bring new solutions to life to solve today's challenges and creates the future.

Microsoft Azure Work

Microsoft azure is a subscription based Service, once customers subscribe to Azure, they have access to all the services included in the Azure portal. Subscribers can use these services to create cloud-based resources, such as virtual machines and databases.

Azure Data serives

Microsoft Azure offers services for a wide variety of data-related needs, including ones you would expect like file storage and relational databases, but also more specialized services, such as for text searching and time-series data.

Azure SQL Database

Microsoft Azure SQL Database is a managed cloud database provided as part of Microsoft Azure. A cloud database is a database that runs on a cloud computing platform, and access to it is provided as a service. Managed database services take care of scalability, backup, and high availability of the database.

Azure Pricing Model: Microsoft offers three main ways to pay for Azure VMs and other cloud resources:

Pay as you go: You can pay for services on Azure according to actual usage.

Reserved Instances: Azure provides RVMI that are pre-purchased for one or three years in a specific region.

spot instances: can be interrupted on short notice suitable only for workloads .

References:

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TENCENT CLOUD SERVICE

Saniya Kayeenath

19MCA20

Tencent Cloud is one of the leading cloud providers in the world with a focus on helping global enterprises succeed in China., Tencent Cloud offers a powerful and robust cloud solution that is specifically designed to address unique challenges faced by enterprises as they expand into China.

Services:

Cloud Virtual Machine (CVM) provides you with secure and flexible computing capabilities. You can enable CVM in the cloud in just minutes to meet your diverse computing needs. Through CVM, you can easily scale up or down your computing resources as your business needs change. Billed based on your actual resource consumption, CVM reduces your computing costs and simplifies IT-related OPS.

Benefits: Elastic Computing, Flexible Configuration, High Stability and Reliability, Easy Management, Secure Network, Comprehensive Protection, Low Costs, Service Integration

Pricing: Tencent Cloud CVM is pay-as-you-go. Billing and settlement are performed hourly.

Tencent Kubernetes Engine: Born out of the open-source Kubernetes system, Tencent Kubernetes Engine (TKE) provides container-centric, highly scalable and high-performance container management services. Fully compatible with Kubernetes' native API and capable of expanding Tencent Cloud's Kubernetes plugins such as CBS and CLB, TKE supports containerized applications with a complete set of functions such as efficient deployment, resource scheduling, service discovery and dynamic scaling. Further, it ensures environmental consistency during user development, testing and OPS, making it easier to manage large-scale container clusters and helping users reduce costs and improve efficiency. TKE is free of charge, and other paid supplementary cloud products will be billed separately.

Benefits: Ecosystem and Openness, Security and Reliability, Ease of Use, Efficient Deployment,Flexible Expansion, Low Cost.

Pricing: Tencent Kubernetes Engine (TKE) is free of charge.

Batch Compute is a cost-effective and easy-to-use computing service for enterprises and research institutes engaged in big data computing. It intelligently manages jobs and schedules the optimal resources necessary based on the configured batch size, allowing you to focus on analyzing and processing data results.

Benefits: Fully Managed Service, Cost Optimization, Powerful Features and Ease of Use

Pricing: Batch Compute is free of charge.

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SALESFORCE CLOUD

Yogapriya P

19MCA21

salesforce is a cloud-based CRM,and it has applications that are focused on customer service,marketing,analytics,application development,and automation.Salesforce is used by organizations to understand their customers,connect with them on various levels and to help grow their customer base.Salesforce Rewinding back in time,organizations had employees who would handle data by manually jotting them down into files.Gradually,with the advent of computers,company stored and accessed their data using word documents and excel sheets.however,as data started growing.this failed to serve the purpose.There was a requirement to store and analyze data in an effective way to improve customer satisfaction.this is when CRM was introduced.Initially these customer relationship management solutions were ideally hosted on a company server.this proved to be ineffective owing to the cost and the duration.

services:

Sales cloud:

Sales Cloud part of the Salesforce.com platform which is focused on enhancing the effectiveness of the sales team of an organization and hence increases the amount of sales. It stands unique when compared to other sales methods as it provides both the account information of the customer as well as the information gathered from the social platforms about the product and customer. This helps in judging the potential of a sales lead and closing the sales faster.

Marketing cloud:

marketing platform that has multiple tools that are designed to efficiently manage a brand's interaction with its current (and potential) customers across various channels. The technology powering the tool allows us to more effectively and efficiently manage marketing activities.

IoT cloud:

IoT Cloud is a platform from Salesforce.com that is designed to store and process Internet of Things (IoT) data.In another context, IoT Cloud can provide business users with much a much more comprehensive and integrated perspective on customers, without requiring technical expertise or the services of a data analyst.

Analytics cloud:

SAP Analytics Cloud is a new tool in the SAP portfolio to meet the needs of data visualization in the cloud. It is delivered as an all-in-one, SaaS-based product. It covers the needs of data visualization, budget planning, and predictive analytics. Its main function is the creation of data reports.

App cloud:

AppCloud from ActiveVideo gives OTT Content Providers an entirely new way to deliver their apps to TVs. AppCloud is a virtualized app platform that lives in the public cloud, managed by ActiveVideo, and supports any partner's already developed and deployed Android Package.

Service cloud:

Salesforce Service Cloud is a customer relationship management (CRM) platform for customer service and support. ... Service Cloud enables users to automate service processes, streamline workflows and find key articles, topics and experts to support customer service agents.

Salesforce Technology:

The cloud computing service that specially looks into customer relationship management is called salesforce.The cloud platform used in salesforce technology is software as a service(Saas).This helps in connecting with existing and future customers and partners in business. The relationship with the customers can be maintained well with this technology and new customers can be created.Also,existing customers remain loyal due to the easiness of business.

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